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PRELIMINARY CONFERENCE AGENDA INSIDE

Subsurface Remediation: Improving Long-Term Monitoring & Remedial Systems Performance

Conference Sponsored by....



June 8 - 11, 1999

St. Louis, Missouri

Seating is limited so please register early

Conference Background & Objectives

As more and more subsurface remediation technologies are installed at hazardous waste sites across the country, the challenge of efficiently monitoring system performance and environmental results arises. It is no longer acceptable to simply install a system, turn on the switch and walk away. Occasionally remediation systems are installed with inadequate site characterization data, without realistic or definitive goals or without a process to evaluate performance data. These practices have resulted in high operation, maintenance, and monitoring costs which will continue to rise unless we begin to focus on improving remedial system performance.

The objectives of this conference are to 1) highlight successes and issues related to improving the performance of subsurface remediation technologies, 2) showcase practical approaches to cost-effective monitoring of remedial performance, and 3) identify research gaps and needs from current practice.

Who Should Attend

The conference is oriented toward remediation professionals who want to gain a better understanding of the practical application and future direction of long-term monitoring - remediation integration. These professionals include:

- Remediation Project Managers
- Remediation Engineers
- Hydrogeologists
- Environmental Consultants
- State and Federal Regulators
- University Researchers
- Technology Developers

Evening Workshops

Evening workshops will be offered for in-depth training by field practitioners and researchers on specific topics. The workshops are scheduled for the evenings of June 8 and 9 between 6 p.m. and 9 p.m. There is no cost for the workshops, but you must preregister to participate. You may preregister by making your selection on the workshop registration form.

Researchers and practitioners from around the country will present:

- practical examples of integrating and optimizing remediation systems and long-term monitoring programs to improve performance and reduce costs
- discussions of critical issues and solutions facing integrating remedial action operations and long-term monitoring
- guidance on establishing data quality objectives, sampling issues, and data analysis
- workshops on modeling for system optimization or evaluation, cost-effective sampling methods, future research needs, and monitoring of natural attenuation
- database management, statistical methods, and data interpretation for decision support
- case studies of cost-effective long-term monitoring and performance assessment strategies

Subsurface Remediation: Improving Long-Term Monitoring & Remedial Systems Performance

Conference Registration

Name: _____ Title: _____

Organization: _____

Address: _____ City/State/Zip Code: _____

Telephone: _____ Fax: _____

E-Mail Address: _____

Conference Registration Due Date: May 16

SEATING IS LIMITED SO PLEASE REGISTER EARLY!!

There is no registration fee for this conference.

If you have any additional questions, please call (703) 318-4797

Evening Workshop Registration

**Tuesday June 8
6 - 9 pm (Select one)**

☐ **Biochlor/Bioscreen** - Learn how to use spreadsheet-based screening tools for natural attenuation of chlorinated solvents and petroleum hydrocarbons (U.S. EPA and U.S. Air Force).

☐ **Groundwater Modeling System (GMS)** - GMS is a modeling platform based on MODFLOW with several pre- and postprocessors. Attend this session for an overview of how to use and access GMS (U.S. Army Corps of Engineers).

☐ **Flow and Transport Optimization of Pump and Treat Systems** - Attend this session to discuss the applicability of flow and transport optimization and hear examples of how these technologies have saved thousands of dollars in designing new and improving existing pump and treat systems (several presenters from academia and the Federal Government).

**Wednesday June 9
6 - 9 pm (Select one)**

☐ **Optimization of Long-Term Monitoring Costs Via Statistical and Geostatistical Thinking** - Two technologies will be discussed. Well redundancy assessment uses geostatistical analysis to optimize the number of wells in an existing monitoring network. The cost-effective sampling technology uses statistical trend analysis to determine an optimal sampling frequency. Attend this session to learn the theory of these technologies and how they may be applicable to your site. (Savannah River Site and Lawrence Livermore National Laboratory).

☐ **Case Studies of Source Control Coupled with Monitored Natural Attenuation** - This workshop will investigate an approach to site characterization and source removal activities in order to evaluate the applicability of natural attenuation (U.S. EPA and U.S. Air Force).

☐ **Emerging Monitoring Techniques and Future Research Needs** - Attend this roundtable discussion to discuss needs for future research on long-term monitoring technologies (U.S. Army Corps of Engineers and U.S. Air Force).

Please fax, mail or e-mail the conference registration and evening workshop forms to:

**SAIC, MS R-4-3
attn: Rebecca Glos
11251 Roger Bacon Dr.
Reston, VA 20190**

**fax (703) 736-0826
e-mail rebecca.l.glos@cpmx.saic.com**

or register online at: WWW.CLU-IN.ORG

Hotel Information

Hotel Registration Due Date: May 16

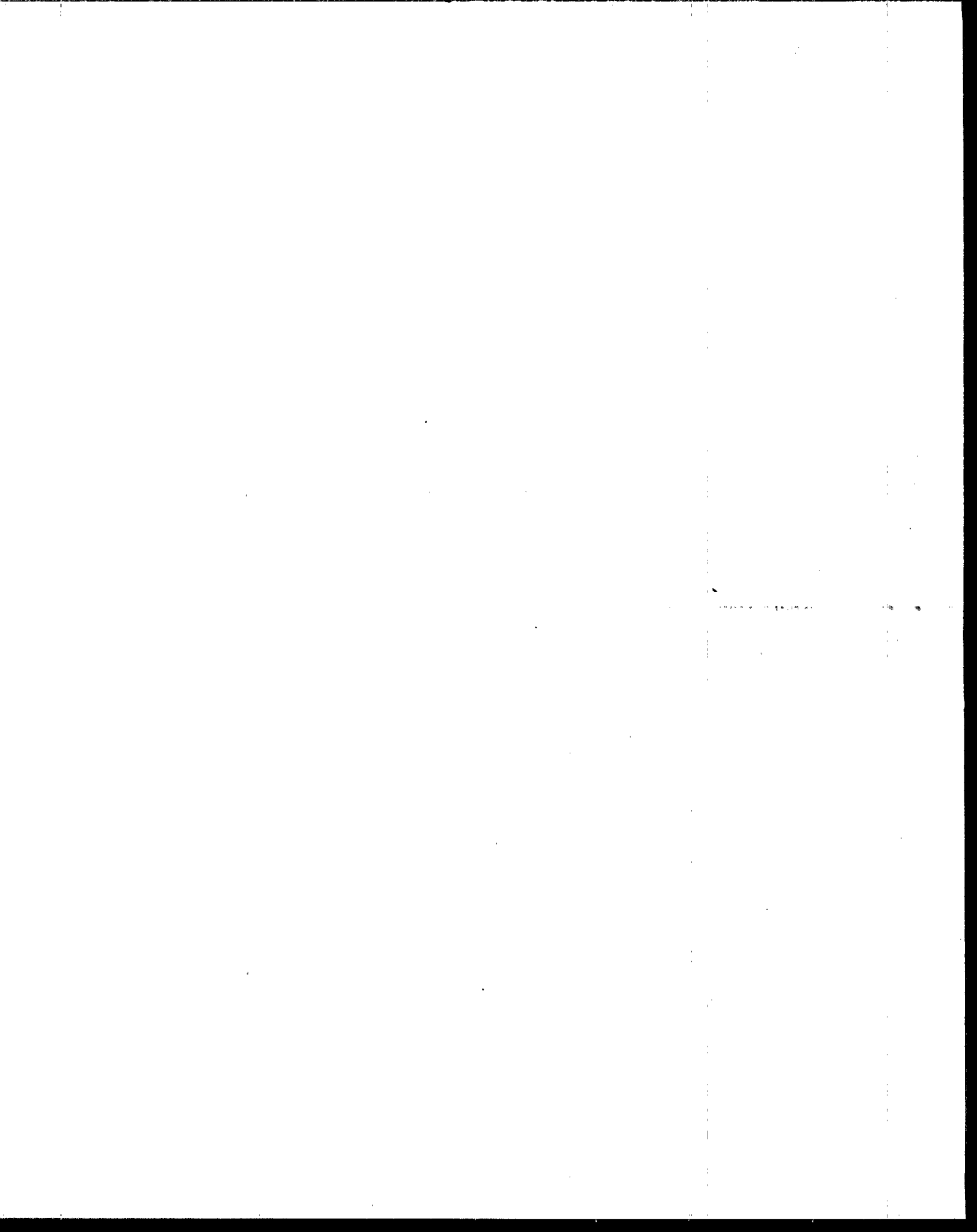
**Adam's Mark Hotel
Fourth & Chestnut
St. Louis, MO 63102**

For reservations call: (314) 241-7400

(Reserve early. Government/Conference rate rooms may not be available after this date.
Additional hotel listings at www.clu-in.org)

**Govt. Rate: \$65 single / \$85 double
(government ID will be required at check in)
Conf. Rate: \$119 single/ \$129 double**

(When making reservations, please refer to the Subsurface Remediation Conference to receive the special rates.)



Preliminary Agenda

**Tuesday
June 8**

- 4 - 6 pm** **Conference Registration**
- 6 - 9 pm** **Evening Workshops**
Pre-registration required (see registration form enclosed)

**Wednesday
June 9**

- 7 - 9 am** **Conference Registration**
- 9 - 10:30 am** **Plenary Session**
- 10:30 am - 4:30 pm** **Detailed Case Studies of Optimization Success Stories & Lessons Learned**
- 6 - 9 pm** **Evening Workshops**
Pre-registration required (see registration form enclosed)

**Thursday
June 10**

Concurrent Sessions A & B

8 am - 5 pm
Session A - Long-Term Monitoring

8 am - 5 pm
Session B - Systems Performance Assessment & Optimization

Question & Answer Session with Speakers

**Friday
June 11**

Concurrent Sessions C & D

8 am - Noon
Session C - Long-Term Monitoring

Long-Term Monitoring presentations in Sessions A & C will address methods to reduce costs associated with long-term ground water and vadose zone monitoring for remedial action operations.

Presentation topics may include:

- establishing data quality objectives;
- selecting alternative sampling techniques;
- reducing the frequency and number of samples collected;
- selecting cost-effective analytical methods;
- collecting appropriate data sets;
- analyzing, reducing and interpreting data for decision making; and
- presenting data in alternative fashions to improve the quality of data collected and reduce overall costs associated with the long-term monitoring programs.

8 am - Noon
Session D - Systems Performance Assessment & Optimization

Systems Performance Assessment and Optimization presentations in Sessions B & D will focus on integrating long-term monitoring and operation strategies for in situ and ex situ systems and ways to improve or maintain system performance over time.

Technologies to be investigated may include:

- soil vapor extraction and air sparging;
- bioremediation and phytoremediation;
- permeable reactive barriers;
- ground water extraction systems;
- monitored natural attenuation; and
- above-ground treatment systems.

What is Federal Remediation Technologies Roundtable (FRTR)?

Federal Remediation Technologies Roundtable is an interagency working group seeking to build a more collaborative atmosphere among the federal agencies involved in hazardous waste site remediation. To date, the focus of this group has been on the exchange of information and production of cost and performance reports on innovative hazardous waste characterization, monitoring and treatment technologies.

Members include major developers and users of these technologies:

- U.S. Department of Defense:
 - U.S. Army*
 - U.S. Army Corps of Engineers*
 - U.S. Navy*
 - U.S. Air Force*
- U.S. Department of Energy
- U.S. Department of the Interior
- U.S. Environmental Protection Agency



Cost & Performance Case Studies

Increasing the cost effectiveness of site remediation is a national priority. The selection and use of more cost-effective remedies requires better access to data on the cost and performance of technologies used in the field. To make data more widely available, member agencies of the Federal Remediation Technologies Roundtable are working jointly to publish case studies of full-scale remediation and demonstration projects. As of October 1998, member agencies of the Roundtable have completed approximately 140 cost and performance case study reports.

Financial support for this conference came from:

- U.S. Air Force Base Conversion Agency (AFBCA)
- U.S. Air Force Headquarters
- U.S. EPA Technology Innovation Office
- U.S. Naval Facilities Engineering Service Center (NFESC)

Additional support provided by:

U.S. Air Force Center for Environmental Excellence

Please visit the FRTR homepage

www.frtr.gov